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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/922,464	08/03/2001	Hans Poisel	ZTP 99 P 3043	7196

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EXAMINER	
LUU, THANH X	
ART UNIT	**PAPER NUMBER**
2878	

DATE MAILED: 10/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/922,464	POISEL ET AL.	
	Examin r	Art Unit	
	Thanh X Luu	2878	

-- The MAILING DATE of this communication appears on th cov r sh et with the correspondenc address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 August 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10,12-15 and 17-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10,12-15 and 17-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *03 August 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

This Office Action is in response to amendments and remarks filed August 8, 2003. Claims 1-10, 12-15 and 17-30 are currently pending.

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the deposit control device, the ion exchanger and the visual or acoustic indication must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-3, 12-15, 17-20, 23-25, 29 and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Seiler et al. (U.S. Patent 5,804,817).

Regarding claims 1-3, 12-15, 17-20, 23-25, 29 and 30, Seiler et al. disclose (see Figure 1) a device and method for detecting deposits, comprising: at least one body (10) having a surface on which deposits (26) occur and influence reflection properties of the surface to electromagnetic radiation; at least one transmitter (12) for transmitting electromagnetic radiation to the at least one body, the at least one transmitter being connected to the at least one body; and at least one detector (24) for detecting the presence of the deposits at the surface, the at least one detector being connected to the at least one body and measuring electromagnetic radiation received from the at least one transmitter after reflection at the surface. Seiler et al. also disclose (see column 3, lines 55-65) at least one deposit control device (wiper) connected to the detector for controlling the deposits at the surface, the control device controlling the deposits based on the signals generated by the detector. The wiper movement inherently provides both acoustical and visual indication as claimed. Seiler et al. further disclose (see Figure 1) the at least one transmitter introduces the electromagnetic radiation into the at least one body and the electromagnetic radiation reaches the at least one detector after internal reflection at the surface and wherein the radiation reaches the at least one detector after multiple internal reflections in the at least one body. Seiler et al. also disclose (see Figure 1) the at least one body is made of a material (glass) having a refractive index (1.5) greater than a refractive index of a medium (air or water) surrounding the at least one body. Seiler et al. also disclose a connecting piece (car frame; not shown) and a sensor part (see Figure 1; sensor with windshield) having the at least one body and being detachably connected to the connecting piece. In addition, Seiler et al. disclose

(see Figure 1) the at least on transmitter introduces the electromagnetic radiation into the at least one body at an angle maximizing a number of internal reflections of the electromagnetic radiation at the surface and the at least one body has a central axis, the at least one transmitter introduces the electromagnetic radiation into the at least one body in a beam inclined at an angle relative to the central axis. The beam inherently has a minimum amount of divergence since the beam is coupled to the at least one body by a prism (14). Further, since the device of Seiler et al. is disposed in an automobile (which holds various liquids), it is disposed in a liquid-conveying machine.

4. Claims 1, 8 and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Nelson (U.S. Patent 6,232,603).

Regarding claims 1, 8 and 9, Nelson discloses (see Figure 3) a device and method for detecting deposits, comprising: at least one body (33, 35) having a surface on which deposits (22) occur and influence reflection properties of the surface to electromagnetic radiation; at least one transmitter (42, 44) for transmitting electromagnetic radiation to the at least one body, the at least one transmitter being connected to the at least one body; and at least one detector (46, 48) for detecting the presence of the deposits at the surface, the at least one detector being connected to the at least one body and measuring electromagnetic radiation received from the at least one transmitter after reflection at the surface. Nelson also discloses (see Figure 3) at least one deposit control device (wiper and wiper circuit) connected to the detector for controlling the deposits at the surface, the control device controlling the deposits based on the signals generated by the detector. Nelson also discloses (see Figure 3) the at

least one body has a point at which electromagnetic radiation is introduced at the at least one body and another point at which the electromagnetic radiation reaches the at least one detector, the point and the other point are adjacent to one another. Nelson further discloses (see Figure 4) the at least one body has a silvered surface (32) for reflecting the electromagnetic radiation and an inside; and the silvered surface is directed toward the inside of the at least one body and substantially reflects the electromagnetic radiation for guiding the electromagnetic radiation to the at least one detector.

5. Claims 1, 7 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Coulling et al. (U.S. Patent 6,084,519).

Regarding claims 1, 7 and 10, Coulling et al. disclose (see Figure 13) a device and method for detecting deposits, comprising: at least one body (117) having a surface on which deposits (25) occur and influence reflection properties of the surface to electromagnetic radiation; at least one transmitter (fog LED 110, rain LED 110) for transmitting electromagnetic radiation to the at least one body, the at least one transmitter being connected to the at least one body; and at least one detector (120) for detecting the presence of the deposits at the surface, the at least one detector being connected to the at least one body and measuring electromagnetic radiation received from the at least one transmitter after reflection at the surface. Coulling et al. also disclose (see Figure 3) at least one deposit control device (wiper and wiper circuit) connected to the detector for controlling the deposits at the surface, the control device controlling the deposits based on the signals generated by the detector. Coulling et al.

further disclose (see Figure 13) the at least one transmitter is two transmitters disposed with respect to the at least one detector to create paths of the electromagnetic radiation from the two transmitters to the at least one detector having different lengths inside the at least one body.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1, 20-23 and 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanno et al. (U.S. Patent 4,946,242).

Regarding claims 1, 20, 21, 23, 25 and 26, Tanno et al. disclose (see Figure 7A) a device and method for detecting deposits, comprising: at least one body (PR) having a surface on which deposits occur and influence reflection properties of the surface to electromagnetic radiation; at least one transmitter (LED) for transmitting electromagnetic radiation to the at least one body, the at least one transmitter being connected to the at least one body; and at least one detector (PD) for detecting the presence of the deposits at the surface, the at least one detector being connected to the at least one body and measuring electromagnetic radiation received from the at least one transmitter after reflection at the surface. Tanno et al. further disclose (see column 16, lines 21-35) the at least one body is disposed in a liquid conveying machine or a washing machine. Tanno et al. do not specifically disclose a deposit control device as

claimed. However, Tanno et al. teach detecting water contamination in washing machines. Further, washing machines have devices that control the draining of water. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide the detector signal to the draining device of the washing machine as a deposit control device in the apparatus of Tanno et al. to automatically and quickly fix the problem of contamination.

Regarding claims 22 and 27, Tanno et al. disclose the claimed invention as set forth above disposed in a washing machine, which is an appliance. Tanno et al. do not specifically disclose the at least one body disposed in a dishwasher. However, dishwashers and washing machines are well known appliances having deposits. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide the method and device of Tanno et al. to further provide detection in dishwashers as desired for improved operation.

8. Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seiler et al.

Regarding claims 4 and 5, Seiler et al. disclose the claimed invention as set forth above. Seiler et al. do not specifically disclose the at least one transmitter emitting radiation at a predetermined wavelength dependent on a degree of change by the deposits based on a maximum degree of change. However, it is notoriously well known in the art to choose an optimum wavelength for detection or a wavelength that provides a maximum degree of change in order to provide better detection. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to

provide a specific wavelength that optimally detects the deposits in the apparatus of Seiler et al. to provide better detection.

Regarding claim 6, Seiler et al. disclose the claimed invention as set forth above. Seiler et al. do not specifically disclose two detectors as claimed. However, it is well known in the art to provide additional detectors to improve the accuracy of detection. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide addition detectors as claimed in the apparatus of Seiler et al. to provide better and more accurate detection.

9. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanno et al. in view of Applicant's admitted prior art (see specification page 3, lines 11-18), hereinafter AAPA.

Regarding claim 28, Tanno et al. disclose the claimed invention as set forth above. Tanno et al. do not specifically disclose an ion exchanger. AAPA teaches (see page 3, lines 11-18) ion exchangers are well known in the art to reduce lime deposits. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide an ion exchanger in the apparatus of Tanno et al. to reduce deposits and improve the operation of the device.

Response to Arguments

10. Applicant's arguments filed August 8, 2003 have been fully considered but they are not persuasive.

Applicant asserts that the prior art does not disclose a deposit control device as claimed. Examiner disagrees. Seiler et al., Coulling et al and Nelson all disclose a

deposit control device (windshield wiper) that is connected to the detector to control deposits as claimed. Thus, as set forth above, this rejection is proper.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh X. Luu whose telephone number is (703) 305-0539. The examiner can normally be reached on Monday-Friday from 6:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta, can be reached on (703) 308-4852. The fax phone number for the organization where the application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

txl
October 22, 2003

Thanh X. Luu
Patent Examiner